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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,010

11/16/2005

Karl-Heinz Danger

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8903

116 7590 11/28/2007
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EXAMINER

LEWIS, RALPH A

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

11/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action SummaryApplication No. **III**

10/528,010

Applicant(s)

DANGER ET AL.

Examiner

Ralph A. Lewis

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-45 and 47-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-45, 47-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Rejections based on Prior Art

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 26, 27, 30-36, 43-45, 48 and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Iio et al (US 5,725,932).

Iio et al discloses ceramic substrate that is used for coating metal machining tools, mills and drills (note column 1, lines 9-15) that provides for a hardened surface having a surface roughness of between 2 μm and 20 μm . In regard to claims 30-33, applicant has amended the specification to explain that the “core reinforcement” can simply be considered the internal structure/mass of drill bit and that the conical basic shape is simply an “imaginary” shape defined within the internal structure/mass of the drill bit. It is noted that such fanciful and strained interpretations can also be made of the prior art. In regard to claim 34, the micron sized roughness is deemed to meet the vague “microhardening” limitation. In regard to claims 35 and 45, the manner in which applicant intends for the device to be made fails to impose any objectively ascertainable structural distinctions from the Sigeyasu invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 26-36, 42, 45 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeyasu (Japan Publication Number 02180517).

The English Patent Abstract of 02180517 supplied by applicant discloses a ZrO_2 ceramic mill bit having a surface roughness of less than $0.3\text{ }\mu\text{m}$ in order for the "prevention of minute chipping." The illustrated portion 1 meets the shaft limitation and element 2 the working member. Claim 26 calling for surface roughness of between $0.5\text{ }\mu\text{m}$ to $6\text{ }\mu\text{m}$ and claim 27 calling for surface roughness between $1\text{ }\mu\text{m}$ and $2\text{ }\mu\text{m}$ are slight and obvious variations from the parameters given by Shigeyasu. Merely selecting a value slightly outside of the range specified by Shigeyasu with the likelihood that that "prevention of minute chipping" would be slightly reduced in order to reduce the production costs required of the higher "less than $0.3\text{ }\mu\text{m}$ " Shigeyasu standard would have been obvious to one of ordinary skill as a matter of routine.

In regard to claims 28 and 29, the examiner is somewhat unsure of what applicant is referring with the oddly worded "geometrically created form transitions" limitation. To the extent that the limitation is referring to the prior art practice of slightly rounding cutting edges in order to help prevent wear, then such would have been

obvious to the ordinarily artisan in practicing the Sigeyasu invention. Moreover, Sigeyasu teaches such rounding in Figure 2. In regard to claims 30-33, applicant has amended the specification to explain that the "core reinforcement" can simply be considered the internal structure/mass of drill bit and that the conical basic shape is simply an "imaginary" shape defined within the internal structure/mass of the drill bit. It is noted that such fanciful and strained interpretations can also be made of the prior art. In regard to claim 34, the micron sized roughness is deemed to meet the vague "microhardening" limitation. In regard to claims 35 and 45, the manner in which applicant intends for the device to be made fails to impose any objectively ascertainable structural distinctions from the Sigeyasu invention.

Claims 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeyasu (Japan Publication Number 02180517) in view of Kumar (US 2002/0028422).

Kumar teaches that it is desirable to provide dental burrs with depth marks 44 in order to aid the dentist in determining the depth of the cut. To have provided the Shigeyasu burrs with depth marks so that the operator could readily determine the depth of the cut would have been obvious to one of ordinary skill in the art in view of the teaching by Kumar.


Claims 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (US 2002/0028422) in view of Iio et al (US 5,725,932).

Kumar teaches that it is desirable to provide dental burrs with depth marks 44 in order to aid the dentist in determining the depth of the cut. To have provided the Kumar burrs with a hardened coating as taught by Iio et al in order to prevent wear on the drill bit would have been obvious to one of ordinary skill in the art in view of the teaching by Iio et al.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R. Lewis
November 25, 2007


Ralph A. Lewis
Primary Examiner
A63732